

ROCKY MOUNTAIN REGION (2)
SAN ISABEL NATIONAL FOREST (12)
LEADVILLE RANGER DISTRICT (01)

TIMBER SALE REPORT
AND
APPRAISAL SUMMARY

DEER STAND TIMBER SALE

Prepared by: _____
Patrick Craig
Forester

Date: _____

Reviewed by: _____
Lisa Corbin
Natural Resources Staff Officer

Date: _____

Certification

I hereby certify that the requirements of the Secretary's Regulation 36 CFR 223.30 have been met by this timber sale.

Approved by: _____
Michael Mueller
Acting District Ranger

Date: _____

Deer Stand Timber Sale Timber Sale Report

I. SUMMARY OF RECCOMENDATIONS

The following lists the recommendations and results of the appraisal.

Net Volumes (Appraised and found in A2 of the contract) :

<u>Species</u>	<u>Volume</u>
<u>Contract Volume</u>	
Sawtimber	
Lodgepole Pine & Other Species (Live & Dead)	LP & O 191 CCF
POL	
Lodgepole Pine & Other Species (Live & Dead)	LP & O <u>163 CCF</u>
	Total 354 CCF

Advertised Rates ---	Sawtimber	LP & O	=	\$3.00/CCF
	POL	LP & O	=	\$1.00/CCF

Required Slash Deposit is \$0.00/CCF

Road Maintenance Deposit is \$0.54/CCF

Surface Rock Replacement Deposit is \$0.00/CCF

Road Maintenance Purchaser Responsibility \$0.00/CCF

Temporary Road Cost is \$6.24/CCF

KV Collection is \$646.00

Salvage Sale Fund Collection is \$0.00

Specified Road Construction is 0.0 Miles

Specified Road Reconstruction is 0.0 Miles

Termination Date is October 31, 2015.

Normal Operating Season is: July 1 – October 15

II. SALE AREA DESCRIPTION

1. Location: San Isabel National Forest, Leadville Ranger District

County: Lake

State: Colorado

Legal Description: T10S, R80W, Sections 19, 20, 29, 30 6th PM

2. STARS#: 12101
SALE #: 009
3. Gross Sale Area: 177 acres
4. Net Harvest Area: 61 acres
5. Location and description of private lands, claims, patents, reservations, or special uses within the sale area and measures to protect them. No easements are needed to access timber for this sale.

III. SALE OBJECTIVE CODE

Purpose	Activity	Percentage
FS – Forest Health	10	100%

IV. MANAGEMENT REQUIREMENTS AND CONSTRAINTS

NEPA Decision Document: Decision Notice, “Box Creek Vegetation and Travel Management Plan”

Date of Project Approval: October 31, 2005

Approved By: James E. Zornes

1. Roads would be closed seasonally (May 15-June 30) if they are in elk calving and mule deer fawning areas and (December 1- April 15) if they are in big game winter range.

Response: No hauling to facilitate logging operations will occur on NFSR 130S between December 1- June 30 and NFSR 130 and 160 from December 1- May 31. Provision CT5.12# Use of Roads by Purchaser will be used to apply road use restrictions.

2. No operations would occur in mapped big game winter range and elk calving and mule deer fawning areas December 1 – June 30. This area would be generally defined as west of the Mt. Elbert pipeline in the project area.

Response: No operations would occur from December 1 – June 30. Provision CT6.312# Sale Operation Restrictions will be used to apply sale operating restrictions for this time period.

3. In all treatment units, mechanical treatments would not remove any existing dead standing trees (snags) greater than 8 inches DBH, except where removal for safety is necessary.

Response: During sale preparation existing dead standing trees (snags) greater than 8 inches DBH were designated as wildlife trees using orange paint and are to remain uncut..

4. In thinning treatment areas, facilitate snag recruitment by retaining no fewer than 40 standing green trees per 5 acres (average of 8 trees per acre, in addition to CWD recruitment). These trees would be the largest available in the unit and greater than 8 inches DBH, if possible. Leave trees with defects or features, such as broken tops, cankers, heart rot, or any existing cavities for snag recruitment.

Response: In all units snag retention levels were accomplished by marking with orange paint to remain uncut all existing snags greater than 8 inches DBH and the largest available green trees for snag recruitment.

5. Cultural resources would be avoided or protected during project implementation. Significant resources would be flagged for avoidance by vehicles, heavy equipment and other ground disturbing activities.

Response: Colorado Historical Society concurrence letter finds that all sites within the project were not eligible to the National Register of Historic Places.

6. To reduce the risk of spreading weed infestations, heavy equipment (i.e. tractors and skidders) would be cleaned and inspected prior to entering the project area. Begin project operations in uninfested areas before operating in weed infested areas.

Response: Prior to moving Off-Road equipment onto the Sale Area, Purchaser shall identify the location of the equipment's most recent operation. Purchaser shall not move any Off-Road equipment that last operated in an area infested with one or more invasive species of concern onto Sale Area without having cleaned such equipment of seeds, soil, vegetative matter, and debris that could contain or hold seeds, and having notified Forest Service. Provision BT6.35 will be used to apply equipment cleaning prior to moving equipment onto sale area.

7. Inspect and document ground disturbing operations, in all treatment areas, for noxious weeds for at least three growing seasons following project completion. Provide for follow-up treatments based on inspection results.

Response: Planned KV work will include monitoring of noxious weeds following completion of project. District personnel will complete this work.

8. Post signs in areas where roads are to be closed, explaining the purpose of the new system road, including safety features and resource protection measures.

Response: The district will provide and install signs on closed temporary roads explaining reasons for closure and resource protection measures.

V. AREA DESCRIPTION SUMMARY

Unit Number	Harvest Acres	Mgt. Area	TLSC	Harvest Method	Logging Method
1	15	5B	600	4113	420
2	37	5B	600	4151	420
3	2	5B	600	4113	420
4	4	5B	600	4113	420
5	3	5B	600	4113	420

Applicable Coding Structure For Area Description
(Timber Land Suitability Class (TLSC, TMIS Handbook))

500 - Suitable, Timber

600 - Suitable, Other Emphasis

630 - Recreation Emphasis

640 - Visual Emphasis

650 - Wildlife Emphasis

660 - Water Emphasis

Harvest Method

4111 - Patch Clearcut

4112 - Strip Clearcut

4113 - Stand Clearcut

4121 - Shelterwood Prep Cut

4131 - Shelterwood Seed Cut

4141 - Shelterwood Removal Cut

4143 - Overstory Removal

4151 - Individual Tree Selection

4152 - Group Selection

4154 - Single Tree Selection (NRN)

4231 - Salvage Intermediate Treatment

4270 - Permanent Clearing

Logging Method

410 - Animal (Horse)

421 - Rubber Tired Skidder

496 - Feller Buncher

420 - Tractor

454 - Other

498 - Low Ground Pressure

VI. TIMBER VOLUME DETERMINATION

Volume Determination

Tree measurement timber sales with an estimated value of less than \$5,000 are not required to meet a sampling error (FSH 2409.12, Chapter 41.1) however, volume determination should be done in a

defensible manner. The estimated value at advertised rates is \$733.00 based on a volume of 353 CCF. Therefore a sampling error is not required to be met based on the volume and value of this sale. The volume was obtained from the Deer Stand T.S. cruise which was a Sample Tree Cruise and Plot Cruise design. Cut trees were tallied in four strata; Strata 1 Sample Tree Cruise 1 in 100 LP (Live & Dead) sawtimber, Strata 2 Sample Tree Cruise 1 in 100 LPP (Live and Dead) POL, Strata 3 Variable Plot Cruise 20 BAF LP (Live & Dead) sawtimber, and Strata 4 Fixed Plot Cruise 1/20 acre LPP (Live & Dead) POL. This cruise resulted in an estimated volume of 190 CCF LP Sawlog, and 163 CCF LPP POL for a total sale volume of 353 CCF. Total Sale error = 19.06%. The final sale error of 19.06 meets the requirements for tree measurement sales with a value greater than \$5,000 and less than or equal to \$15,000 (FSH 2409.12 Chapter 41.1) thus is acceptable.

Merchantability Specifications

Species	Products	UOM	Min DBH	Top DIB	Length	Merch. Factor
LP & other species (Live & Dead)	Sawlogs	CCF	7.0	6.0	8.0'	10.67
LP & other species (Live & Dead)	POL	CCF	5.0	4.0	6.5'	8.0

Area Determination Method

The acreage of each cutting unit was determined by the Global Positioning System (GPS) method on all cutting units following direction set forth in FSH 2409.12.52.12. Maps of each cutting unit are filed in the *Presale Folder 2430* for this sale.

VII. TRACT DATA

	Units	Sale Total or Average	LP & O (Live & Dead)	LPP & O (Live & Dead)
Contract Volume	CCF	354	191	163
% By Species/Group	%	100%	54%	46%
Ave. Net Volume/Tree	CF	2.90	4.13	2.15
Ave. Net Volume/Acre	CCF	5.8	3.13	2.67
BF/CF Ratio	n/a	5.1798	4.0326	6.5243
Quad Mean DBH/Species	Inch	6.9	8.3	5.9
Total Number of Trees	Trees	12,189	4,593	7,596

VIII. UNIT SUMMARY

Cutting Unit	Sawtimber CCF LP & O from	POL CCF LP & O from
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	Cruise	Cruise
1	74	53
2	72	78
3	10	7
4	20	14
5	15	11
Total-->	191	163

IX. TRANSPORTATION SYSTEM

Cost estimates for road construction, road reconstruction, and road maintenance are provided in the Transaction Evidence Appraisal Report (TEA), Section V.

ROAD MAINTENANCE:

		<u>MILES</u>
NFSR 130S	Post Haul	0.5
NFSR 130	Post Haul	<u>2.4</u>
		2.9

SPECIFIED ROAD CONSTRUCTION:

	<u>MILES:</u>
There is no specified road construction for this sale.	0.0

SPECIFIED ROAD RECONSTRUCTION:

	<u>MILES:</u>
There is no specified road reconstruction for this sale.	0.0

X. AGREEMENTS, EASEMENTS, AND PERMITS

There are no agreements, easements, and/or permits with other agencies or members of the public required to gain access to the sale area or portions thereof.

XI. APPROVALS/AUTHORIZATIONS

The following are Forest Service Manual and Handbook references for Authorization and Policy regarding this timber sale:

FSM 2400 - Timber Management

FSH 2409.18 Timber Sale Preparation Handbook, Chapter 50, Section 53 – Final Package Preparation

FSH 2409.19 Renewable Resources Handbook

Deer Stand Timber Sale Transaction Evidence Appraisal Report

I. TRANSACTIONAL APPRAISAL SUMMARY

- Adjustments for Quality Unusual Adjustment, Logging Fuel Cost, and Hauling Fuel Costs.
- Sale appraised to Montrose, CO.

II. ACCESS AND RELATION TO MARKETS

Product	Contract Species	Appraisal Group	Appraisal Point(s)	One Way Haul Miles
Sawtimber	Live/Dead Lodgepole Pine & O	LP	Montrose, CO	188
POL	Live/Dead Lodgepole Pine & O	LP	Montrose, CO	188

All sawtimber and POL material will be appraised to Montrose, Colorado. This mill location is the closest manufacturing and marketing point for a sale of this quantity for sawtimber and POL products to be processed.

III. SALE APPRAISAL VOLUMES

Product	Contract Species	Appraisal Group	Volume	Unit of Measure
Sawtimber - 01	Lodgepole Pine & other species Live & Dead	LP – 108	191	CCF – 03
POL – 03	Lodgepole Pine & other species Live & Dead	LP – 108	163	CCF – 09
TOTAL			354	CCF – 03

IV. CURRENT APPRAISAL DATA

BULLETIN NO. BU230413 , effective May 10, 2013 until superseded
BASE DATA PERIOD: 2nd QTR CY12 – 1st QTR CY13
APPRAISAL BASE PERIOD: 6-13
BASE INDEX: March, 2013 (2007-08 basis): 417.66
BASE INDEX Adjusted to CCF: WWPA(A): 177.51

INDEX OPERATIONS		
SPECIES: LP	ST	POL
Adjusted Base Period Price	8.89	1.16
Base Skid-Yard Cost	104.36	NA
Base Haul	63.04	NA
Base Road Maintenance	5.24	2.04
Base Slash	1.76	2.81
Base Temp Roads	3.24	1.29

V. TRANSPORTATION COSTS

A. Road Maintenance Deposits

Following is a list of specified roads requiring road maintenance deposits:

Road	Segment Length	Maintained Miles
NFSR 130	2.4	2.4
NFSR 130S	0.5	0.5
Total		2.9

Deposits = (2.9 miles) (\$0.1625/ccf/mile*1.15 FSOH) (354 CCF) = \$191.85

Total Road Maintenance = \$191.85/354 CCF = **\$0.54 / CCF**

B. Sale Temporary Roads

1. Temporary Road Costs

Temporary road construction is allowed when skidding distance exceeds 1,000 feet. It is estimated that 0.8 miles of temporary roads will need to be constructed to complete the required harvest volume in this sale.

Costs to construct temporary road

0.8 miles of temporary road / 0.5 miles/day = 1.6 days. 1 D5 Cat w/operator @ \$100.00 / hour or \$800.00/day (Mark Varhus) x 1.6 days = \$1280.00

Costs for temporary road closing

This cost includes the closure requirements. Close approximately 0.8 miles of temporary road at \$500.00/mile = 0.8 miles x \$500.00 = \$400.00.

Total Temp. Road Cost

Road Construction = \$ 1280.00

Road Closing = \$ 400.00

Total = \$ 1680.00

\$1680.00 x 1.3154(OH) = \$2209.87/354 CCF = **\$6.24/CCF**

C. Sale Haul Costs

1. Sawtimber – Haul to: Montrose, CO

See attached haul/road maintenance spreadsheet for haul information.

Sawtimber Sale Haul Cost = (Total Round Trip Haul Minutes) x (\$0.1130/CCF/Min.) (per FSH 2409.22, Chap. 44.1)

Sawtimber Haul Costs = 775 Min. x \$0.1130/CCF/Min. = \$ **87.54/CCF**

2. POL - Haul to: Montrose, CO

POL Sale Haul Cost = Subtract average haul miles (52) from the sale haul miles and multiply by the haul cost. Haul cost is \$0.170/CCF/MI.

POL Sale Haul Cost = (188 miles – 52 average haul miles) x \$0.170/CCF/Min. = \$ **23.12/CCF**

D. Sale Transportation – Subtotal

	Cost/CCF
Sale Haul-Sawtimber	\$ 87.54
Sale Haul-POL	\$ 23.12
Road Maintenance	\$ 0.54
Temporary Road	\$ 6.24
TRANSPORTATION COSTS	\$117.31

VI. LOGGING COSTS

Logging cost adjustment is figured on the TEA234 Appraisal System. It is based on the difference between the appraised sale and Regional average sale diameter and sale volume per acre. (Reference FSH 2409.22, 51.61)

VII. UNUSUAL ADJUSTMENTS

Unusual adjustments are sale adjustments made necessary for cost or value items that are not reflected in the appraisal database. (FSH 2409.22, 51.6)

A. Quality Unusual Species and Form Adjustment

1. Quality Unusual Adjustment- LP qualifies for adjustment.

The Appraisal Bulletin suggests an unusual adjustment for quality when the difference between the species mbf/ccf ratio and the zone average mbf/ccf ratio is greater than - 0.010. This assumes that smaller lumber dimensions will be produced from poorer formed trees of equal diameter and therefore an adjustment in advertised rates is justified. This adjustment is available for use on ES, LP, DF, and TF. The maximum amount of the optional Quality Unusual Adjustment for LP = \$-3.56.

Formula from Bulletin:

$$\frac{r-R}{R}$$

$\$90.00 \times .04 \times R = \text{quality adjustment}$

Where:

$R = \text{mbf/ccf ratio for database avg. and } r = \text{LP mbf/ccf ratio from the cruise}$

$R = .45133 \text{ and } r = .40326$

Because $.40326 - .45133 = -0.04807$ and is greater than -0.010 , the LP in this sale qualifies for the adjustment.

The adjustment = $\$90.00/\text{MBF} \times (-0.04807/.04) \times .45133 \text{ MBF/CCF} = -\$48.81/\text{CCF}$

The maximum amount of the quality unusual adjustment for LP for this bulletin is $\$8.89(-.40) = -\3.56 therefore the amount of Quality Unusual adjustment applied to LP in the appraisal is **-\$3.56/CCF**

B. Fuel Cost Adjustments

1. Hauling Fuel Cost Adjustment (Sawtimber)

A positive (+)\$0.001/mile/CCF log haul fuel cost adjustment will be added as an unusual adjustment to all hauling costs developed using the standard procedures in FSH 2409.22. The haul cost fuel adjustment should not be used for haul costs that are developed empirically using procedures that use the current cost of fuel in the development of hauling costs.

The one way haul distance is 188 miles. The round trip haul distance is 376 miles. The round trip haul time is 12.9 hours. Standard R2 procedures are being used to develop the haul costs.

The log haul fuel adjustment is: $376 \text{ miles} \times \$0.001/\text{mile/CCF} = +\0.38 per CCF

In addition to the normal haul cost, a **+\$0.38/CCF** haul fuel cost adjustment will be added as an unusual adjustment to the “Species level Information Screen”.

2. Logging Fuel Cost Adjustment (Sawtimber)

Also, a positive (+) \$0.48/CCF logging cost fuel adjustment for all ground based and skyline logging costs developed using the standard R2 logging cost procedures will be used. This adjustment is to be used for logging costs that are developed using the R2 TEA234 appraisal program, and should not be used for logging costs that are developed empirically using procedures that include the current cost of fuel in the development of logging costs. This cost adjustment, if applicable, should be entered as a **+\$0.48** unusual adjustment to all species in the “Species Level Information” screen of the appraisal program.

3. Hauling Fuel Cost Adjustment (POL)

A positive (+)\$0.001/mile/CCF log haul fuel cost adjustment will be added as an unusual adjustment to all hauling costs developed using the standard procedures in FSH 2409.22. The

haul cost fuel adjustment should not be used for haul costs that are developed empirically using procedures that use the current cost of fuel in the development of hauling costs.

The one way haul distance is 188 miles. The round trip haul distance is 376 miles. The round trip haul time is 12.9 hours. Standard R2 procedures are being used to develop the haul costs.

The log haul fuel adjustment is: 376 miles X +\$0.001/mile/CCF = +\$0.38 per CCF

In addition to the normal haul cost, a +**\$0.38/CCF** haul fuel cost adjustment will be added as an unusual adjustment to the “Species level Information Screen”.

4. Logging Fuel Cost Adjustment (POL)

Also, a positive (+) \$0.48/CCF logging cost fuel adjustment for all ground based and skyline logging costs developed using the standard R2 logging cost procedures will be used. This adjustment is to be used for logging costs that are developed using the R2 TEA234 appraisal program, and should not be used for logging costs that are developed empirically using procedures that include the current cost of fuel in the development of logging costs. This cost adjustment, if applicable, should be entered as a +**\$0.48** unusual adjustment to all species in the “Species Level Information” screen of the appraisal program.

C. Unusual Adjustments Subtotal

Species:	LP	POL	
Slash Disposal	N/A	N/A	
Quality Unusual Adjustment	-\$3.56	N/A	
Haul Fuel Cost Adjustment	+\$0.38	+\$0.38	
Log Fuel Cost Adjustment	+\$0.48	+\$0.48	
SUB-TOTAL <i>(slash costs are put into TEA234 separately)</i>	-\$2.70	+\$0.86	

VIII. PURCHASER OBLIGATION PER OPERATIONS FIRE

(A15) FSH 2409.18, Sec.53.31

Wage rate for AD-2 firefighter = \$11.32 / hour*

Estimate a 4-person woods crew.

4 people x \$11.32 / hour x 12 hours x 3 days = \$1630.08

Round to the nearest hundred ---> **\$1,600.00**

* FSH 5109.34 - Interagency Incident Business Management Handbook

IX. COMPETITION FACTOR

The San Isabel National Forest is currently a competitive forest. The competition factor for the San Isabel will be 10% for this Bulletin period (BU230413).

Species/Product	Competition Factor
LP Sawtimber	\$0.89
LP POL	\$0.12

X. BASE RATES

Minimum Base Rates are set by the Regional Office. (TEA Bulletin No. BU230413)

Sale Species/Product	Base Rates per CCF
LP Sawtimber	\$3.00
LP POL	\$1.00

XI. ADJUSTMENT TO BASE RATES

If any of the Indicated Advertised Rates for a species are below Base Rates, the Base Rate will be used as the Advertised Rate for those species and the other species' Advertised Rates will be adjusted downward in proportion to the amount of their positive value. (FSH 2409.18, 45.43)

Sale Species/Product	Adjustments to Base Rates per CCF
LP Sawtimber	\$ 46.54
LP POL	\$ 22.86

XII. PERFORMANCE BOND

(A18) There are two methods of calculating the performance bond per FSH 2409.18, Sec.54.1. The larger of the two calculations is used for the minimum performance bond.

Bond Based on 10% of Advertised Stumpage Value - Method I

$$\begin{array}{rcl} \text{Advertised Stumpage Value} = & \$ & 733.00 \\ & & \times .10 \\ & \$ & 73.00 \end{array}$$

Round up to next \$100.00 --->\$100.00

Bond Based on Penal Sum - Method II, work required for one logging season (without TPOH)

Sale Volume = 354 CCF /3 operating seasons = 118 CCF
Road Closure Cost for sale = \$400.00

$$\begin{array}{lcl} \text{*Lopping (10\% of fall, buck cost): } \$17.00/\text{CCF} \times .10 & = & \$1.70 / \text{CCF} \\ \text{*Waterbarring (5\% of skid cost): } \$23.45 \times .05 & = & \$1.17 / \text{CCF} \\ \text{\frac{1}{2} Temp road closure: } \$400.00 \times .5 = \$200/353 & = & \underline{\$0.57 / \text{CCF}} \end{array}$$

$$\text{Total:} = \$3.44/\text{CCF}$$

$$\begin{array}{l} \$3.44/\text{CCF} \times 118 \text{ CCF} \times 1.16 \text{ FSOH} = \$470.87 \\ \text{Round up to next hundred ---> } \$500.00 \end{array}$$

The greater of Method I or Method II is: \$500.00

* Used zone average appraisal cost R2 Amendment 2409.22-95-3 Sec.42

XIII. STUMPAGE AVAILABLE FOR KV and SSF

Total Sale Value = \$ 736.00

Less to NFF = \$ 89.00

Stumpage available for KV and SSF funding = \$ 647.00